

IN THE CLAIMS

Please delete all prior lists of claims in the application and insert the following list of claims:

1. ~~[PREVIOUSLY CANCELED] A diagnostic test for spongiform encephalopathy and other demyelinating conditions in mammals which comprises assaying antibodies present in the mammal which bind to an antigenic peptide which exhibits molecular mimicry of a mammalian myelin peptide.~~
2. ~~[PREVIOUSLY CANCELED] A test according to Claim 1, in which the mammalian myelin peptide has the sequence FSWGAEQK.~~
3. ~~[PREVIOUSLY CANCELED] A test according to Claim 1 or 2, for BSE in cattle.~~
4. ~~[PREVIOUSLY CANCELED] A test according to Claim 3, using as the test antigen whole bacteria of an Acinetobacter, Agrobacterium, or Ruminococcus species.~~
5. ~~[PREVIOUSLY CANCELED] A test according to Claim 4, using bacteria of the species Acinetobacter calcoaceticus, Agrobacterium tumefaciens, or Ruminococcus albus.~~
6. ~~[PREVIOUSLY CANCELED] A test according to Claim 3, using as the test antigen a peptide derived from bacteria specified in Claim 4 or 5.~~
7. ~~[PREVIOUSLY CANCELED] A test according to Claim 6, using a peptide of sequence ISRFAWGEV, YTRFTWGAP, or YTQFEISAE.~~
8. ~~[PREVIOUSLY CANCELED] A test according to Claim 6 or 7, in which the peptide used is a synthetic peptide.~~

9. ~~[PREVIOUSLY CANCELED] A method of testing for BSE in cattle which comprises assaying sera collected from the cattle for antibodies to a species of *Acinetobacter*, *Agrobacterium* or *Ruminococcus*, or a peptide having a sequence present in said species which mimics a peptide of bovine myelin and identifying animals having a level of antibodies at least about two standard deviations above that of healthy control animals.~~

10. ~~[PREVIOUSLY CANCELED] A method according to claim 9, in which the bovine myelin peptide has the sequence FSWGAEQGK.~~

11. ~~[PREVIOUSLY CANCELED] A diagnostic test kit for BSE in cattle comprising as test antigen a species of *Acinetobacter*, *Agrobacterium* or *Ruminococcus*, or a peptide having a sequence present in said species which mimics a peptide of bovine myelin.~~

12. ~~[PREVIOUSLY CANCELED] A test kit according to claim 11, in which the test antigen is a peptide which mimics the sequence FSWGAEQGK.~~

13. **[CURRENTLY AMENDED]** A method of diagnosing spongiform encephalopathy **and multiple sclerosis** in a mammalian subject, including a human subject, the method comprising measuring a bodily fluid of the subject for antibodies capable of binding to a microorganism classified within a genus selected from the group consisting of *Acinetobacter*, *Agrobacter*, and *Ruminococcus*, and wherein the microorganism contains an antigenic peptide that has sufficient sequence homology with a mammalian myelin peptide such that the antibodies capable of binding to the microorganism are cross-reactive with mammalian myelin and demyelinate nervous tissue, wherein an elevated level of the antibodies in the subject as compared to a corresponding level of the antibodies in known unaffected subjects indicates spongiform encephalopathy or multiple sclerosis in the subject.

14. **[CANCEL]** ~~The method of Claim 13, wherein the mammalian subject is a human, and the method is to diagnose multiple sclerosis.~~

15. **[PREVIOUSLY ADDED]** The method of Claim 13, wherein the mammalian subject is a bovine, and the method is to diagnose bovine spongiform encephalopathy.

16. **[PREVIOUSLY ADDED]** The method of Claim 13, wherein the bodily fluid measured is serum.

17. **[PREVIOUSLY ADDED]** The method of Claim 13, wherein the bodily fluid is measured for the presence of antibodies capable of binding to a microorganism classified within the genus *Acinetobacter*.

18. **[PREVIOUSLY ADDED]** The method of Claim 13, wherein the bodily fluid is measured for the presence of antibodies capable of binding to a microorganism classified within the genus *Agrobacter*.

19. **[PREVIOUSLY ADDED]** The method of Claim 13, wherein the bodily fluid is measured for the presence of antibodies capable of binding to a microorganism classified within the genus *Ruminococcus*.

20. **[PREVIOUSLY ADDED]** The method of Claim 13, wherein the bodily fluid is measured for the presence of antibodies capable of binding to a microorganism selected from the group consisting of *Acinetobacter calcoaceticus*, *Agrobacter tumefaciens*, and *Ruminococcus albus*.

21. **[PREVIOUSLY ADDED]** The method of Claim 13, wherein the antibodies are measured using an enzyme-linked immunosorbent assay.

22. **[PREVIOUSLY ADDED]** The method of Claim 21, wherein the enzyme-linked immunosorbent assay utilizes as a test antigen whole bacteria classified within a genus selected from the group consisting of *Acinetobacter*, *Agrobacter*, and *Ruminococcus*.

23. **[PREVIOUSLY ADDED]** The method of Claim 21, wherein the enzyme-linked immunosorbent assay utilizes as a test antigen whole bacteria selected from the group consisting of *Acinetobacter calcoaceticus*, *Agrobacter tumefaciens*, and *Ruminococcus albus*.

24. **[PREVIOUSLY ADDED]** The method of Claim 21, wherein the enzyme-linked immunosorbent assay utilizes as a test antigen whole *Acinetobacter calcoaceticus* bacteria.

25. **[PREVIOUSLY ADDED]** The method of Claim 21, wherein the enzyme-linked immunosorbent assay utilizes as a test antigen whole bacteria wherein the bacteria contains an antigenic peptide comprising an amino acid sequence as shown in SEQ. ID. NOS: 1, 3, 4, and 5.

26. **[PREVIOUSLY ADDED]** The method of Claim 13, wherein the antibodies are measured using an enzyme-linked immunosorbent assay that utilizes as a test antigen a polypeptide selected from the group consisting of SEQ. ID. NOS: 1, 3, 4, and 5.

27. **[PREVIOUSLY ADDED]** The method of Claim 13, wherein the microorganism contains an antigenic peptide comprising an amino acid sequence as shown in SEQ. ID. NOS: 1, 3, 4, and 5.

28. **[PREVIOUSLY ADDED]** A method of diagnosing spongiform encephalopathy in a bovine subject, the method comprising measuring serum collected from a bovine subject for antibodies capable of binding to a microorganism classified

within a genus selected from the group consisting of *Acinetobacter*, *Agrobacter*, and *Ruminococcus*, and wherein the microorganism contains an antigenic peptide that has sufficient sequence homology with a mammalian myelin peptide such that the antibodies capable of binding to the microorganism are cross-reactive with mammalian myelin and demyelinate nervous tissue, wherein an elevated level of the antibodies in the subject as compared to a corresponding level of the antibodies in known unaffected subjects indicates spongiform encephalopathy in the subject.

29. **[PREVIOUSLY ADDED]** The method of Claim 28, wherein the bodily fluid is measured for the presence of antibodies capable of binding to a microorganism classified within the genus *Acinetobacter*.

30. **[PREVIOUSLY ADDED]** The method of Claim 28, wherein the bodily fluid is measured for the presence of antibodies capable of binding to a microorganism classified within the genus *Agrobacter*.

31. **[PREVIOUSLY ADDED]** The method of Claim 28, wherein the bodily fluid is measured for the presence of antibodies capable of binding to a microorganism classified within the genus *Ruminococcus*.

32. **[PREVIOUSLY ADDED]** The method of Claim 28, wherein the bodily fluid is measured for the presence of antibodies capable of binding to a microorganism selected from the group consisting of *Acinetobacter calcoaceticus*, *Agrobacter tumefaciens*, and *Ruminococcus albus*.

33. **[PREVIOUSLY ADDED]** The method of Claim 28, wherein the antibodies are measured using an enzyme-linked immunosorbent assay.

34. **[PREVIOUSLY ADDED]** The method of Claim 33, wherein the enzyme-linked immunosorbent assay utilizes as a test antigen whole bacteria classified within a

genus selected from the group consisting of *Acinetobacter*, *Agrobacter*, and *Ruminococcus*.

35. **[PREVIOUSLY ADDED]** The method of Claim 33, wherein the enzyme-linked immunosorbent assay utilizes as a test antigen whole bacteria selected from the group consisting of *Acinetobacter calcoaceticus*, *Agrobacter tumefaciens*, and *Ruminococcus albus*.

36. **[PREVIOUSLY ADDED]** The method of Claim 33, wherein the enzyme-linked immunosorbent assay utilizes as a test antigen whole *Acinetobacter calcoaceticus* bacteria.

37. **[PREVIOUSLY ADDED]** The method of Claim 33, wherein the enzyme-linked immunosorbent assay utilizes as a test antigen whole bacteria wherein the bacteria contains an antigenic peptide comprising an amino acid sequence as shown in SEQ. ID. NOS: 1, 3, 4, and 5.

38. **[PREVIOUSLY ADDED]** The method of Claim 28, wherein the antibodies are measured using an enzyme-linked immunosorbent assay that utilizes as a test antigen a polypeptide selected from the group consisting of SEQ. ID. NOS: 1, 3, 4, and 5.

39. **[PREVIOUSLY ADDED]** The method of Claim 28, wherein the microorganism contains an antigenic peptide comprising an amino acid sequence as shown in SEQ. ID. NOS: 1, 3, 4, and 5.

40. **[CANCEL]** ~~A method of diagnosing multiple sclerosis in a human subject, the method comprising measuring serum collected from a human subject for antibodies capable of binding to a microorganism classified within a genus selected from the group consisting of *Acinetobacter*, *Agrobacter*, and *Ruminococcus*, and wherein the microorganism contains an antigenic peptide that has sufficient sequence homology with~~

~~a mammalian myelin peptide such that the antibodies capable of binding to the microorganism are cross-reactive with mammalian myelin and demyelinate nervous tissue, wherein an elevated level of the antibodies in the subject as compared to a corresponding level of the antibodies in known unaffected subjects indicates multiple sclerosis in the subject.~~

41. [CANCEL] ~~The method of Claim 40, wherein the bodily fluid is measured for the presence of antibodies capable of binding to a microorganism classified within the genus Acinetobacter.~~

42. [CANCEL] ~~The method of Claim 40, wherein the bodily fluid is measured for the presence of antibodies capable of binding to a microorganism classified within the genus Agrobacter.~~

43. [CANCEL] ~~The method of Claim 40, wherein the bodily fluid is measured for the presence of antibodies capable of binding to a microorganism classified within the genus Ruminococcus.~~

44. [CANCEL] ~~The method of Claim 40, wherein the bodily fluid is measured for the presence of antibodies capable of binding to a microorganism selected from the group consisting of Acinetobacter calcoaceticus, Agrobacter tumefaciens, and Ruminococcus albus.~~

45. [CANCEL] ~~The method of Claim 40, wherein the antibodies are measured using an enzyme-linked immunosorbent assay.~~

46. [CANCEL] ~~The method of Claim 45, wherein the enzyme-linked immunosorbent assay utilizes as a test antigen whole bacteria classified within a genus selected from the group consisting of Acinetobacter, Agrobacter, and Ruminococcus.~~

47. ~~[CANCEL] The method of Claim 45, wherein the enzyme-linked immunosorbent assay utilizes as a test antigen whole bacteria selected from the group consisting of Acinetobacter calcoaceticus, Agrobacter tumefaciens, and Ruminococcus albus.~~

48. ~~[CANCEL] The method of Claim 45, wherein the enzyme-linked immunosorbent assay utilizes as a test antigen whole Acinetobacter calcoaceticus bacteria.~~

49. ~~[CANCEL] The method of Claim 45, wherein the enzyme-linked immunosorbent assay utilizes as a test antigen whole bacteria wherein the bacteria contains an antigenic peptide comprising an amino acid sequence as shown in SEQ. ID. NOS: 1, 3, 4, and 5.~~

50. ~~[CANCEL] The method of Claim 40, wherein the antibodies are measured using an enzyme-linked immunosorbent assay that utilizes as a test antigen a polypeptide selected from the group consisting of SEQ. ID. NOS: 1, 3, 4, and 5.~~

51. ~~[CANCEL] The method of Claim 40, wherein the microorganism contains an antigenic peptide comprising an amino acid sequence as shown in SEQ. ID. NOS: 1, 3, 4, and 5.~~

52. **[CURRENTLY AMENDED]** A kit for diagnosing spongiform encephalopathy **and multiple sclerosis** in a mammalian subject, including a human subject, the kit comprising, in combination:

a first vessel containing a microorganism classified within a genus selected from the group consisting of Acinetobacter, Agrobacter, and Ruminococcus; and
instructions for use of the kit.

53. **[PREVIOUSLY ADDED]** The kit of Claim 52, wherein the first vessel is suitable for conducting enzyme-linked immnuosorbent assays therein and the microorganism is adhered to an inside surface of the vessel such that the microorganism is capable of reacting with antibodies in a solution added to the vessel.

54. **[PREVIOUSLY ADDED]** The kit of Claim 52, wherein the microorganism is selected from the group consisting of *Acinetobacter calcoaceticus*, *Agrobacter tumefaciens*, and *Ruminococcus albus*.

55. **[PREVIOUSLY ADDED]** The kit of Claim 52, wherein the microorganism contains an antigenic peptide comprising an amino acid sequence as shown in SEQ. ID. NOS: 1, 3, 4, and 5.